Ordering Information

Sensors [Refer to *Dimensions* on page 10.]

DC 2-Wire, Pre-wired Models

Size		Sensing distance	Output	Operation mode	Model
Shielded 	M8	1.5 mm	DC 2-Wire (polarity)	NO	**E2FM-X1R5D1 2M** *
	M12	2 mm			**E2FM-X2D1 2M** *
	M18	5 mm			**E2FM-X5D1 2M** *
	M30	10 mm			**E2FM-X10D1 2M** *

Note: Models with NC operation are also available. Ask your OMRON representative for details.
* Fluororesin-coated models are also available. The model numbers are E2FM-QX□D1. The cable material, however, is vinyl chloride and requires separate protection.

DC 2-wire Pre-wired Smartclick Connector Models (M12)

Size		Sensing distance	Output	Operation mode	Model
Shielded 	M8	1.5 mm	Polarity Pin allocations: 1-4	NO	**E2FM-X1R5D1-M1TGJ 0.3M**
	M12	2 mm	Polarity Pin allocations: 1-4		**E2FM-X2D1-M1TGJ 0.3M**
			No polarity Pin allocations: 3-4		**E2FM-X2D1-M1TGJ-T 0.3M**
	M18	5 mm	Polarity Pin allocations: 1-4		**E2FM-X5D1-M1TGJ 0.3M**
			No polarity Pin allocations: 3-4		**E2FM-X5D1-M1TGJ-T 0.3M**
	M30	10 mm	Polarity Pin allocations: 1-4		**E2FM-X10D1-M1TGJ 0.3M**
			No polarity Pin allocations: 3-4		**E2FM-X10D1-M1TGJ-T 0.3M**

DC 3-Wire, Pre-wired Models

Size		Sensing distance	Model	
			Output configuration: NPN NO	Output configuration: PNP NO
Shielded 	M8	1.5 mm	**E2FM-X1R5C1 2M**	**E2FM-X1R5B1 2M**
	M12	2 mm	**E2FM-X2C1 2M**	**E2FM-X2B1 2M**
	M18	5 mm	**E2FM-X5C1 2M**	**E2FM-X5B1 2M**
	M30	10 mm	**E2FM-X10C1 2M**	**E2FM-X10B1 2M**

Note: Models with NC operation are also available. Ask your OMRON representative for details.

DC 3-Wire, M12 Connector Models

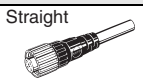
Size		Sensing distance	Model	
			Output configuration: NPN NO	Output configuration: PNP NO
Shielded 	M8	1.5 mm	**E2FM-X1R5C1-M1**	**E2FM-X1R5B1-M1** *
	M12	2 mm	**E2FM-X2C1-M1**	**E2FM-X2B1-M1** *
	M18	5 mm	**E2FM-X5C1-M1**	**E2FM-X5B1-M1** *
	M30	10 mm	**E2FM-X10C1-M1**	**E2FM-X10B1-M1** *

* Fluororesin-coated models are also available. The model numbers are E2FM-QX□B1-M1. The cable material, however, is vinyl chloride and requires separate protection.

Accessories (Order Separately)

Sensor I/O Connectors (M12, Sockets on One Cable End)

(Models for Connectors and with Pre-wired Connectors: A Connector is not provided with the Sensor. Be sure to order a Connector separately.)
[Refer to *XS2, XS5*.]

Appearance	Cable length	Sensor I/O Connector model number	Applicable Proximity Sensor model number
Straight 	2m	**XS2F-D421-DC0-F**	E2FM-X□C1-M1 E2FM-X□B1-M1
	5m	**XS2F-D421-GC0-F**	
L-shape 	2m	**XS2F-D422-DC0-F**	
	5m	**XS2F-D422-GC0-F**	
Smartclick Connector Relay Models (M12) 	2m	**XS5F-D421-D80-F**	E2FM-X□D1-M1TGJ E2FM-X□D1-M1TGJ-T
	5m	**XS5F-D421-G80-F**	

Note: Refer to *Introduction to Sensor I/O Connectors* for details.

Ratings and Specifications

DC 2-Wire (E2FM-X□D□)

Item \ Size	M8	M12	M18	M30	M12	M18	M30
Shielded	Shielded						
Model	E2FM-X1R5D1-□	E2FM-X2D1-□	E2FM-X5D1-□	E2FM-X10D1-□	E2FM-X2D1-M1T1GJ-T	E2FM-X5D1-M1T1GJ-T	E2FM-X10D1-M1T1GJ-T
Sensing distance	1.5 mm±10%	2 mm±10%	5 mm±10%	10 mm±10%	2 mm±10%	5 mm±10%	10 mm±10%
Set distance	0 to 1.05 mm	0 to 1.4 mm	0 to 3.5 mm	0 to 7 mm	0 to 1.4 mm	0 to 3.5 mm	0 to 7 mm
Differential travel	15% max. of sensing distance						
Sensing object	Ferrous metal (The sensing distance decreases with non-ferrous metal. Refer to *Engineering Data* on page 7.)						
Standard sensing object	Iron, 8 × 8 × 1 mm	Iron, 12 × 12 × 1 mm	Iron, 30 × 30 × 1 mm	Iron, 54 × 54 × 1 mm	Iron, 12 × 12 × 1 mm	Iron, 30 × 30 × 1 mm	Iron, 54 × 54 × 1 mm
Response frequency *1	200 Hz	100 Hz	100 Hz	50 Hz	100 Hz	100 Hz	50 Hz
Power supply voltage (operating voltage range)	12 to 24 VDC (10 to 30 VDC), ripple (p-p): 10% max.						
Leakage current	0.8 mA max.						
Output configuration	With polarity				No polarity		
Control output — **Switching capacity**	3 to 100 mA						
Control output — **Residual voltage**	3 V max. (Load current: 100 mA max., Cable length: 2 m)				5 V max. (Load current: 100 mA max., Cable length: 2 m)		
Indicators	Operation indicator (red LED), Setting/Operation indicator (green LED)						
Operation mode (with sensing object approaching)	NO *2						
Protection circuits	Surge suppressor, Load short-circuit protection						
Ambient temperature range	Operating/Storage: –25 to 70°C (with no icing or condensation)						
Ambient humidity range	Operating/Storage: 35% to 95% (with no condensation)						
Temperature influence	±20% max. of sensing distance at 23°C in the temperature range of –25 to 70°C.						
Voltage influence	±1% max. of sensing distance at rated voltage in the rated voltage ±15% range						
Insulation resistance	50 MΩ min. (at 500 VDC) between current-carrying parts and case						
Dielectric strength	1,000 VAC, 50/60 Hz for 1 minute between current-carrying parts and case						
Vibration resistance	Destruction: 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions						
Shock resistance	Destruction: 500 m/s² 10 times each in X, Y, and Z directions	Destruction: 1,000 m/s² 10 times each in X, Y, and Z directions					
Degree of protection	IEC 60529 IP67						
Connection method	Unmarked: Pre-wired Models (Standard cable length: 2 m) Models ending with -M1GJ-□: Pre-wired Connector Models (Standard cable length: 300 mm)						